HUBUNGAN ANTARA IKLIM KESELAMATAN DENGAN GELAGAT KESELAMATAN DI DALAM MAKMAL DALAM KALANGAN PELAJAR UNIVERSITI AWAM

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Tesis diserahkan kepada
Pusat Pengajian Pengurusan Perniagaan,
Universiti Utara Malaysia,
untuk memenuhi keperluan bagi Ijazah Sarjana Sains
(Pengurusan Keselamatan dan Kesihatan Pekerjaan)

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Tesis ini dikemukakan sebagai memenuhi keperluan pengurniaan Ijazah Sarjana Sains (Pengurusan Keselamatan dan Kesihatan Pekerjaan) daripada Universiti Utara Malaysia. Saya dengan ini bersetuju membenarkan pihak perpustakaan Universiti Utara Malaysia mempamerkannya sebagai bahan rujukan umum. Saya juga bersetuju bahawa sebarang bentuk salinan sama ada secara keseluruhan atau sebahagian daripada tesis ini untuk tujuan akademik perlulah mendapat kebenaran daripada Penyelia Tesis atau Dekan Pusat Pengajian Pengurusan Perniagaan terlebih dahulu. Sebarang bentuk salinan dan cetakan bagi tujuan komersial adalah dilarang sama sekali tanpa kebenaran bertulis daripada penyelidik. Penyataan rujukan kepada penyelidik dan Universiti Utara Malaysia perlulah dinyatakan jika rujukan ke atas tesis ini dilakukan.

Kebenaran untuk menyalin atau menggunakan tesis ini sama ada secara sebahagian atau sepenuhnya hendaklah dimohon melalui:

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ABSTRAK

Kajian ini bertujuan mengkaji kesan langsung iklim keselamatan dan kesan pengantaraan motivasi keselamatan dan pengetahuan keselamatan terhadap gelagat keselamatan di dalam makmal dalam kalangan pelajar di universiti. Kaedah kuantitatif menggunakan soal selidik digunakan dalam kajian ini. Seramai 278 orang pelajar program pengajian kejuruteraan kimia atau berasaskan kimia di tiga buah universiti awam iaitu USM, UniMAP dan UiTM terlibat dalam kajian ini. Data dianalisis menggunakan statistik deskriptif dan inferensi menerusi perisian IBM SPSS Statistics dan SEM SmartPLS 3.0. Dapatan kajian memperlihatkan komitmen pengurusan, komitmen penyelia, komitmen pelajar, persepsi risiko dan penghargaan keselamatan berupaya membentuk konstruk iklim keselamatan. Manakala, pematuhan keselamatan dan penyertaan keselamatan pula dapat membentuk konstruk gelagat keselamatan di dalam makmal. Dapatan kajian turut memperlihatkan iklim keselamatan memberikan kesan langsung terhadap gelagat keselamatan di dalam makmal. Selain itu, motivasi keselamatan dan pengetahuan keselamatan turut memberikan kesan pengantaraan terhadap hubungan antara iklim keselamatan dengan gelagat keselamatan di dalam makmal dalam kalangan pelajar di universiti. Dalam kajian ini kesan pengantaraan pengetahuan keselamatan adalah paling menyumbang berbanding motivasi keselamatan dan kesan langsung. Pengetahuan keselamatan merupakan perkara yang wajar ditekankan dalam mengurus keselamatan makmal di universiti. Justeru, pihak pengurusan universiti seharusnya mengambil kira kepentingan menawarkan subjek berkaitan keselamatan pekerjaan dalam setiap program pengajian yang menggunakan kemudahan makmal di universiti. Hal ini kerana subjek tersebut dapat meningkat dan mengukuhkan pengetahuan keselamatan dan sekali gus memberikan implikasi yang besar terhadap gelagat keselamatan di dalam makmal dalam kalangan pelajar di USM, UniMAP dan UiTM. Dengan demikian, kajian hubungan antara iklim keselamatan dengan gelagat keselamatan di dalam makmal juga wajar dikembangkan di organisasi pendidikan yang lain seperti institusi pengajian tinggi swasta (IPTS), institut pendidikan guru (IPG), politeknik dan kolej komuniti.

Kata kunci: Iklim keselamatan, gelagat keselamatan, motivasi keselamatan, pengetahuan keselamatan, keselamatan makmal

ABSTRACT

This study aims to examine the direct effect of safety climate and the mediation effect of safety motivation and safety knowledge on the laboratory safety behavior among students in the university. The quantitative survey using questionnaires was used in this study. A total of 278 chemical or chemistry-based engineering students at three public universities from USM, UiTM and UniMAP were involved in this study. Data were analyzed using descriptive and inferential statistics via IBM SPSS Statistics and SEM SmartPLS 3.0. From the study, management commitment, supervisor commitment, student commitment, risk perception and safety reward were able to form safety climate construct. Meanwhile, safety compliance and safety participation were able to form laboratory safety behavior construct. This study verified that safety climate exerted direct effect on the laboratory safety behavior. In addition, safety motivation and safety knowledge exerted mediation effect on the relationship between safety climate and laboratory safety behavior among students in the university. In this study, the effect of mediation of safety knowledge contributes more compared to the safety motivation and the direct effect. Safety knowledge was the important element to manage laboratory safety in the university. Thus, the management of the university should consider the importance to offer subjects relating to occupational safety in the program that operate laboratory facilities in the university. For the reason, this study has verified that safety subject might boost and reinforce safety knowledge and bring favorable implications for laboratory safety behavior among students in the university. Hence, the study of the relationship between safety climate and laboratory safety behavior should be discovered in other educational organizations such as private higher learning institutions (IPTS), teacher education institutes (IPG), polytechnics and community colleges.

Keywords: Safety climate, safety behavior, safety motivation, safety knowledge, laboratory safety

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Khairul Hafezad Bin Abdullah
UUM Sintok, Kedah

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SENARAI RAJAH

SENARAI SINGKATAN

Singkatan	Penerangan
AMOS	Analysis of Moment Structure
BBS	Behavior Based Safety
CB-SEM	Covariance Based Structure Equation Modeling
COMP	Pematuhan Keselamatan
EM	Expectation Maximization
IKBN	Institut Kemahiran Belia Negara
KNO	Pengetahuan Keselamatan
LISREL	Liner Structural Relations
MC	Komitmen Pengurusan
MOT	Motivasi Keselamatan
MSDS	Lembaran Data Keselamatan Bahan
NIOSH	Institut Keselamatan dan Kesihatan Pekerjaan
NRC	National Research Council
PA	Analisis Jalur
PAR	Penyertaan Keselamatan
PLS	Partial Least Square
PPE	Peralatan Perlindungan Diri
RP	Persepsi Risiko
SEM	Pemodelan Persamaan Struktur
SOP	Prosedur Operasi Standard
SPSS	Statistical Package for Social Science
SR	Penghargaan Keselamatan
StC	Komitmen Pelajar
SvC	Komitmen Penyelia
UiTM	Universiti Teknologi MARA
UiTMCPs	Universiti Teknologi MARA Cawangan Perlis
UMP	Universiti Malaysia Pahang
UMT	Universiti Malaysia Terengganu
UniMAP	Universiti Malaysia Perlis
USM	Universiti Sains Malaysia
UTM	Universiti Teknologi Malaysia
UUM	Universiti Utara Malaysia

BAB 1

PENDAHULUAN

1.1 Latar Belakang Kajian

Dalam abad ke-21, perihal keselamatan dan kesihatan pekerjaan menjadi agenda utama pihak pengurusan mengurus sesebuah organisasi di semua sektor pekerjaan termasuk sektor pendidikan. Hal ini penting kerana, pengurusan keselamatan dan kesihatan pekerjaan yang cekap dan berkesan dapat meningkatkan kesedaran, kualiti dan gelagat keselamatan di sesebuah organisasi (Hossain, Hossain, Tarannum & Chowdhury, 2015). Selain itu, perkara tersebut juga dapat mengenal pasti masalah dan punca kelemahan keselamatan pekerjaan yang wujud (Hon, Chan & Yam, 2014).

Mengurus keselamatan dan kesihatan pekerjaan di sektor pendidikan khususnya di universiti memperlihatkan pihak pengurusan universiti komited menjaga keselamatan dan kesihatan pekerjaan di kalangan kakitangan dan pelajar. Perkara ini dapat dilihat menerusi polisi keselamatan dan kesihatan pekerjaan di setiap universiti di Malaysia seperti di Lampiran A, selari dengan Akta Keselamatan dan Kesihatan Pekerjaan (AKKP) 1994. Antara intipati utama polisi tersebut adalah bermatlamat meningkatkan tahap keselamatan dan kesihatan pekerjaan di universiti umpamanya memastikan persekitaran pembelajaran, pengajaran dan penyelidikan berada pada tahap keselamatan yang optimum dan terbaik (Norazam, 2017).

Mengurus keselamatan dan kesihatan pekerjaan di universiti juga melibatkan pengurusan keselamatan makmal. Namun, pengurusan keselamatan makmal di

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LAMPIRAN A

Polisi Keselamatan dan Kesihatan Pekerjaan Universiti Awam di Malaysia

Bah.	Kategori Universiti	Bil.	Universiti	Polisi Keselamatan dan Kesihatan Pekerjaan	Sumber
A.	Universiti Penyelidikan	1.	Universiti Malaya (UM)	1. Make occupational safety and health as part of its organizational core values. 2. Comply with legal requirements as well as the related safety and health regulations of the nation. 3. Prepare and coordinate an administrative system and work environment that are safe and healthy. 4. Enhance the level of awareness among the campus community on the importance of occupational safety and health by providing adequate information, instructions, training and supervision. 5. Conduct activities to identify hazards as well as evaluate and control risks at the workplace. 6. Investigate and record accidents, poisoning and illness at work as well as dangerous incidents do not recur. 7. Conduct inspections, audits and policy revisions periodically to ensure continuous improvement. 8. Allocate sufficient resources to implement the above objectives.	Universiti Malaya (2015)
		2.	Universiti Sains Malaysia (USM)	1. Mewujudkan sistem pengurusan keselamatan dan kesihatan pekerjaan yang berterusan dan teratur selaras dengan kehendak undang-undang negara. 2. Mewujudkan kawasan dan suasana kerja yang selamat, sihat dan sejahtera serta peralatan-peralatan keselamatan yang sesuai dan mencukupi supaya tidak menimbulkan bencana keselamatan dan kesihatan di tempat kerja. 3. Menyediakan maklumat, panduan, arahan, latihan dan penyeliaan bagi memupuk staf dan pelajar mendisiplinkan diri supaya mereka dapat mengamalkan tahap keselamatan dan kesihatan pekerjaan yang tinggi dalam sebarang pekerjaan. 4. Memupuk kesedaran keselamatan dan kesihatan pekerjaan kepada pelajar-pelajar supaya mereka dapat menerima dan mengamalkan amalan keselamatan dan kesihatan pekerjaan yang baik sebagai amalan biasa apabila mereka berijazah dan meninggalkan universiti dan berdepan dengan masyarakat dan alam pekerjaan.	Universiti Sains Malaysia (2013)

Bah.	Kategori Universiti	Bil.	Universiti	Polisi Keselamatan dan Kesihatan Pekerjaan	Sumber
				5. Memastikan semua individu yang berurusan dengan universiti, termasuk pelawat, penyewa/penghuni premis, kontraktor dan seumpamanya mematuhi peraturan dan perundangan keselamatan dan kesihatan pekerjaan yang ditetapkan.	
		3.	Universiti Kebangsaan Malaysia (UKM)	1. Menjadikan pengurusan keselamatan, kesihatan dan persekitaran pekerjaan sebagai aspek yang penting dan bersepadu dalam pengurusan universiti. 2. Menyediakan sumber, sistem dan latihan yang mencukupi untuk meningkatkan kesedaran dan kompetensi pekerja untuk bekerja dengan selamat dan sihat. 3. Mengasas, menilai semula dan meningkatkan kecemerlangan semua dasar, sistem dan prosedur kerja selamat dan sihat dari masa ke semasa bersesuaian dengan peruntukkan akta, peraturan serta piawai amalan berkaitan. 4. Memastikan segala perancangan dan prosedur dibuat untuk menangani keperluan kerja dalam keadaan biasa dan kecemasan. 5. Menyiasat dan mengambil tindakan pembaikan serta pencegahan dengan segera ke atas setiap kemalangan pekerjaan yang berlaku dan melaporkan kepada pihak berkaitan. 6. Membudayakan sistem kerja selamat dan sihat secara berterusan dalam kalangan pekerja dan pelajar berteraskan kefahaman, kompetensi, tanggungjawab dan pengaturan kendiri.	Universiti Kebangsaan Malaysia (2014)
		4.	Universiti Putra Malaysia (UPM)	1. Universiti Putra Malaysia beriltizam untuk membangunkan persekitaran dan menerapkan budaya kerja yang selamat dan sihat melalui perkongsian tanggungjawab antara pihak pengurusan dengan komuniti kampus mengikut kapasiti masing-masing untuk mewujudkan persekitaran tempat kerja yang kondusif. Isu keselamatan, kesihatan dan kebajikan akan diberi kepentingan dan diambil tindakan yang sama status kepentingannya dengan matlamat utama UPM. 2. Sistem pengurusan keselamatan dan kesihatan pekerjaan akan dilaksanakan dan disemak semula dari masa ke semasa untuk memastikan adanya kesinambungan program ke arah penambahbaikan yang berterusan.	Universiti Malaya (2015)
		5.	Universiti Teknologi Malaysia (UTM)	1. Melaksanakan sistem keselamatan, kesihatan dan persekitaran yang memenuhi standard kebangsaan dan antarabangsa. 2. Menyedia dan melaksanakan pelan tindakan bagi membolehkan pelbagai aktiviti dijalankan dalam persekitaran yang selamat dan sihat. 3. Memupuk budaya kerja yang selamat melalui pendidikan dan penambahbaikan berterusan.	Universiti Teknologi Malaysia (2013)

Bah.	Kategori Universiti	Bil.	Universiti	Polisi Keselamatan dan Kesihatan Pekerjaan	Sumber
				4. Menyediakan wadah bagi penyertaan dan penglibatan staf dalam amalan keselamatan, kesihatan dan persekitaran. 5. Menyemak polisi keselamatan, kesihatan dan persekitaran apabila perlu.	
B.	Universiti Berfokus	1.	Universiti Utara Malaysia (UUM)	Universiti Utara Malaysia adalah bertanggungjawab dan komited untuk menyediakan dan mewujudkan persekitaran kerja yang selamat dan sihat untuk semua pekerja, pelajar dan orang awam yang berurusan dengan UUM selaras dengan keperluan statutori, piawaian serta garis panduan dalam dan luar negara. Polisi keselamatan dan kesihatan pekerjaan dirangka untuk: 1. Mematuhi Akta Keselamatan dan Kesihatan Pekerjaan 1994 (Akta 514) dan lain-lain keperluan perundangan yang berkaitan. 2. Menyediakan tempat kerja yang selamat dan sihat bagi semua pekerja, pelajar dan orang awam. 3. Mencegah kemalangan dan gangguan kesihatan terhadap semua pekerja, pelajar dan orang awam. 4. Menerapkan budaya kerja yang selamat dan sihat melalui maklumat, arahan, penyeliaan, pendidikan dan latihan yang berterusan. 5. Mewujudkan organisasi yang jelas fungsi tanggungjawabnya terhadap pelaksanaan polisi keselamatan dan kesihatan pekerjaan serta pemantauan keberkesanannya. 6. Mengkaji polisi keselamatan dan kesihatan pekerjaan secara berterusan dan berkala. Polisi ini menjadi asas untuk pengurangan hazad dan memperbaiki keadaan keselamatan di tempat kerja. Keberkesanan polisi ini akan diperoleh daripada gabungan usaha, komitmen serta kerjasama semua pekerja, pelajar dan orang awam.	Universiti Utara Malaysia (2011)
		2.	Universiti Pendidikan Sultan Idris (UPSI)	1. Memastikan pengurusan keselamatan dan kesihatan pekerjaan memenuhi kehendak perundangan negara. 2. Mewujudkan persekitaran kampus yang selamat dan sihat. 3. Menyediakan pendidikan dan latihan yang mencukupi dan berterusan bagi memupuk budaya kerja yang selamat. 4. Melaksanakan kajian dan penambahbaikan pekerjaan yang berterusan.	Universiti Pendidikan Sultan Idris (2013)
		3.	Universiti Tun Hussein Onn	1. Menyediakan persekitaran kerja yang selamat dan sihat untuk semua pekerja dan orang-orang lain. 2. Mengamalkan budaya kerja selamat dan sihat.	Universiti Tun Hussein Onn

Bah.	Kategori Universiti	Bil.	Universiti	Polisi Keselamatan dan Kesihatan Pekerjaan	Sumber
			Malaysia (UTHM)	3. Berusaha untuk mencapai matlamat kemalangan sifar. 4. Mengamalkan budaya hidup sihat.	Malaysia (2013)
		4.	Universiti Teknikal Malaysia Melaka (UTeM)	1. Mewujudkan dan mengekalkan suasana kerja yang selamat dan sihat. 2. Mewujudkan dan menyelenggara sistem pengurusan keselamatan dan kesihatan pekerjaan yang teratur, efektif dan aktif selaras dengan undang-undang berkaitan. 3. Mewujudkan dan menyenggara prosedur dan prosedur dan sistem kerja yang selamat serta memastikan peralatan keselamatan yang sesuai dan mencukupi setiap masa. 4. Memupuk kesedaran melalui latihan, penerangan, pemberitahuan, dan pendidikan di dalam mencegah, menghadapi dan menanggani bahaya di tempat kerja. 5. Mengadakan dan menyebarkan maklumat-maklumat dan petunjuk-petunjuk keselamatan dan kesihatan pekerjaan di UTeM. 6. Seberapa kerap dan setakat yang praktik mengkaji semula dasar-dasar bertulis, program dan rancangan keselamatan dan kesihatan di UTeM sebagai proses penambahbaikan secara berterusan dan pembaharuan yang berkesan.	Universiti Teknikal Malaysia Melaka (2015)
		5.	Universiti Malaysia Perlis (UniMAP)	1. Menjadikan pengurusan keselamatan, kesihatan pekerjaan dan alam sekitar sebagai keutamaan. 2. Mematuhi Akta Keselamatan dan Kesihatan Pekerjaan 1994, Akta Kualiti Alam Sekeliling 1974, Akta Pengangkutan Jalanraya 1987 dan akta-akta lain yang berkaitan. 3. Melaksanakan tanggungjawab dalam usaha mencapai objektif dan sasaran yang ditetapkan dengan mengenalpasti, menilai risiko, mengambil tindakan pencegahan berlakunya kemalangan dan kecederaan bagi mengurangkan kerugian, kerosakan harta benda, kerosakan alam sekitar dan penyakit hasil dari pekerjaan. 4. Mewujudkan pelan tindakan penambahbaikan, dari aspek kesedaran, kompetensi, komunikasi, kebajikan, tanggungjawab serta kerjasama antara pekerja dan majikan. 5. Menilai semula dari semasa ke semasa, polisi, latihan, sistem, program dan prosedur kerja untuk peningkatan berterusan.	Universiti Malaysia Perlis (2015)
		6.	Universiti Malaysia Terengganu (UMT)	1. Menjadikan sistem keselamatan dan kesihatan pekerjaan yang efektif sebagai aspek utama dalam pengurusan universiti. 2. Menyediakan sumber dan program latihan secara berterusan bagi meningkatkan kesedaran, pengetahuan dan kompetensi. 3. Mewujudakan mekanisma penguatkuasaan, pengawasan dan penambahbaikan berterusan bagi menjamin dasar, program dan amalan kerja selamat.	Universiti Malaysia Terengganu (2016)

Bah.	Kategori Universiti	Bil.	Universiti	Polisi Keselamatan dan Kesihatan Pekerjaan	Sumber
				4. Memupuk warga UMT mengamalkan budaya kerja selamat yang berteraskan kefahaman, kompetensi, tanggungjawab dan pengaturan kendiri.	
		7.	Universiti Malaysia Pahang (UMP)	1. Memastikan semua pekerja dan pihak-pihak berkaitan diberikan informasi dan juga latihan berkaitan KKP serta memberikan rundingan dalam apa jua isu yang boleh memberi kesan kepada keselamatan dan kesihatan mereka di tempat kerja. 2. Usaha secara berterusan untuk membentuk dan menggalakkan budaya kerja yang selamat dan sihat selaras dengan nilai kesedaran yang tinggi berteraskan kefahaman, kompetensi, tanggungjawab dan pengaturan kendiri. 3. Menggunakan sepenuhnya sumber yang sedia ada untuk penambahbaikan berterusan secara inovasi dan pembangunan teknologi. 4. Mewujudkan dan mempertingkatkan rasionalisasi semua dasar, sistem dan prosedur kerja selamat secara berterusan selagi bersesuaian dengan akta, peraturan dan piawaian amalan berkaitan keselamatan dan kesihatan pekerjaan sedia ada. 5. Memastikan segala prosedur dan garis panduan dilaksanakan sama ada keperluan dalam keadaan biasa mahupun kecemasan.	Universiti Malaysia Pahang (2014)
		8.	Universiti Sains Islam Malaysia (USIM)	1. Menyediakan sistem pengurusan keselamatan dan kesihatan pekerjaan yang berterusan serta kemudahan prasarana yang lengkap. 2. Memupuk kesedaran dan mendidik keselamatan dan kesihatan pekerjaan. 3. Memastikan warga USIM dilatih dengan peraturan keselamatan dan kesihatan pekerjaan yang bersesuaian dengan skop dan sistem bekerja. 4. Memantau dan menjamin keselamatan dan kesihatan pekerja, pelajar dan pelawat ketika menggunakan kemudahan prasarana. 5. Membudayakan sistem kerja yang selamat dan sihat secara berterusan.	Universiti Sains Islam Malaysia (2017)
		9.	Universiti Sultan Zainal Abidin (UniSZA)	1. Menyatakan tumpuan dan komitmen UniSZA dalam memastikan keselamatan dan kesihatan pekerja. 2. Menggariskan dasar dan objektif UniSZA dalam membangun dan melaksanakan program-program dan aktiviti-aktiviti dalam menyediakan persekitaran tempat kerja yang selamat dan sihat.	Universiti Sultan Zainal Abidin (2012)
		10.	Universiti Malaysia Kelantan (UMK)	1. Membudayakan pengurusan persekitaran, keselamatan dan kesihatan di UMK mengikut standard antarabangsa. 2. Membudayakan budaya kerja selamat dan sihat dikalangan warga UMK melalui sistem pengurusan persekitaran, keselamatan dan kesihatan pekerjaan.	Universiti Malaysia Kelantan (2014)

Bah.	Kategori Universiti	Bil.	Universiti	Polisi Keselamatan dan Kesihatan Pekerjaan	Sumber
		11.	Universiti Pertahanan Nasional Malaysia (UPNM)	1. Menjadi entiti yang cemerlang dengan memberikan perkhidmatan keselamatan selaras dengan wawasan UPNM. 2. Memberikan perkhidmatan keselamatan selaras dengan pelan strategi universiti.	Universiti Pertahanan Nasional Malaysia (2017)
C.	Universiti Komprehensif	1.	Universiti Teknologi MARA (UiTM)	1. Menyediakan, menyenggara dan memastikan tempat kerja, peralatan dan sistem kerja agar sentiasa selamat 2. Menyediakan maklumat, latihan dan penyelidikan untuk memastikan sistem kerja yang selamat 3. Mewujudkan struktur penguatkuasaan, pemantauan, siasatan dan tindakan pembetulan berterusan demi menjayakan Polisi Keselamatan dan Kesihatan Pekerjaan UiTM 4. Mengadakan rundingan antara Jawatankuasa Keselamatan dan Kesihatan Pekerjaan UiTM dengan Jawatankuasa Keselamatan dan Kesihatan Pekerjaan peringkat fakuliti/jabatan/bahagian/unit unutk mendapatkan maklum balas 5. Memberikan sokongan dan kerjasama sepenuhnya kepada Pegawai Keselamatan dan Kesihatan Perkerjaan dalam menjalankan tugas	Universiti Teknologi MARA (2017)
		2.	Universiti Islam Antarabangsa Malaysia (UIA)	1. Preventing human injury and ill health. 2. Continuing improvement in OSH management and performance. 3. Complying with applicable legal and other requirements. 4. Providing adequate resources, facilities and equipment for staff members, students and related personnel. 5. Providing sufficient information, instruction, training and supervision. 6. Raising awareness of OSH obligations.	Universiti Islam Antarabangsa Malaysia (2014)
		3.	Universiti Malaysia Sabah (UMS)	Komited untuk memastikan keselamatan, kesihatan dan kebajikan pekerja dan mana-mana orang lain yang mungkin terjejas oleh operasi organisasi di dalam kawasan kawalannya dengan mengambil setiap usaha yang munasabah untuk menghapuskan bahaya yang menyebabkan kemalangan dan kecederaan melalui penambahbaikan berterusan selaras dengan Akta Keselamatan dan Kesihatan (Akta 514) dan lain-lain perundangan dan peraturan yang berkaitan.	Universiti Malaysia Sabah (2015)
		4.	Universiti Malaysia	The Faculty of Engineering's Health & Safety Unit is committed to providing and maintaining a healthy and safe working environment for staff, students and any other people who may be affected by its activities. Our role is to assist the University in the	Universiti Malaysia

Bah.	Kategori Universiti	Bil.	Universiti	Polisi Keselamatan dan Kesihatan Pekerjaan	Sumber
			Sarawak (UNIMAS)	development and implementation of the University Health and Safety Policy and to provide expert advice. The Unit works closely with other departments in the University, in particular Occupational Health which is our main concern, and with external agencies. A thorough cooperation with all parties is vital for the up keeping of our wellbeing in the Faculty of Engineering as our main concern.	Sarawak (2014)

LAMPIRAN B

Takrifan Iklim Keselamatan

Bil.	Penyelidik	Tahun	Takrifan Iklim Keselamatan
1.	Zohar	1980	Perkongsian persepsi molar atau persepsi menyeluruh pekerja tentang fungsi dan peranan pengurusan keselamatan dan kesihatan organisasi membentuk gelagat keselamatan pekerja
2.	Glennon	1982	Persepsi pekerja mengenai ciri dan sifat organisasi yang dapat membentuk gelagat keselamatan dengan menyisihkan bahaya-bahaya pekerjaan yang wujud
3.	Dedobbeleer dan Béland	1991	Perkongsian persepsi molar pekerja tentang persekitaran tempat kerja
4.	Niskanen	1994	Ciri dan persepsi mengenai pekerjaan yang dilakukan dalam organisasi berdasarkan polisi dan amalan keselamatan dalam organisasi
5.	Cooper dan Philips	1994	Perkongsian persepsi dan kepercayaan pekerja terhadap keselamatan pekerjaan di tempat kerja
6.	Cooper	1995	Persepsi pekerja tentang kepentingan keselamatan dan peranan keselamatan dalam persekitaran pekerjaan yang dioperasionalkan
7.	Coyle *et al.*	1995	Objektif untuk mengukur sikap dan persepsi terhadap isu-isu keselamatan dan kesihatan pekerjaan dalam organisasi
8.	Ciavarelli dan Figlock	1996	Perkongsian persepsi dalam organisasi berhubung komitmen pemimpin terhadap keselamatan pekerjaan melibatkan komunikasi keselamatan dan pematuhan prosedur-prosedur keselamatan
9.	Cabrera, Isla dan Vilela	1997	Perkongsian persepsi dalam organisasi berhubung polisi keselamatan dan persekitaran pekerjaan
10.	Cooper	1997	Perkongsian persepsi dan kepercayaan pekerja terhadap keselamatan dalam sesebuah organisasi melibatkan aspek-aspek risiko dan bahaya pekerjaan yang wujud
11.	Williamson *et al.*	1997	Ringkasan konsep etika keselamatan dalam organisasi yang menjadi refleksi kepada kepercayaan pekerja dan tindak balas pekerja untuk bergelagat dengan selamat semasa bekerja
12.	Isla dan Diaz	1997	Perkongsian molar pekerja terhadap perihal keselamatan pekerjaan yang mempengaruhi tindakan dan gelagat keselamatan
13.	Cheyne, Cox, Oliver dan Tomás	1998	Situasi semasa untuk mengukur budaya keselamatan yang terhasil daripada tindak balas perkongsian persepsi pekerja terhadap keselamatan dalam organisasi
14.	Flin *et al.*	1998	Persepsi keselamatan pada masa tertentu yang bergantung kepada persekitaran tempat kerja
15.	Kennedy dan Kirwan	1998	Perwakilan keselamatan dalam bentuk simbolik seperti poster dan politik seperti komitmen pengurusan menyediakan belanjawan mengurus keselamatan di tempat kerja. Iklim keselamatan boleh juga diterjemahkan sebagai budaya keselamatan dalam organisasi
16.	Bureau of Air Safety Inverstigation, Autsralia	1999	Tindak balas terhadap prosedur keselamatan dalam organisasi melibatkan persepsi pekerja tentang kepentingan keselamatan dan kaedah untuk mengekalkan keselamatan di tempat kerja melibatkan gelagat dan sikap keselamatan pekerja
17.	Meliá dan Sesé	1999	Persepsi menyeluruh sesebuah organisasi mengenai isu-isu keselamatan yang wujud sebagai rujukan tindakan atau gelagat selamat dalam kalangan pekerja

Bil.	Penyelidik	Tahun	Takrifan Iklim Keselamatan
18.	Grosch	1999	Perkongsian persepsi pekerja berhubung tahap keselamatan di tempat kerja merangkumi dimensi seperti komitmen pengurusan, konflik dalam kalangan pekerja, kebersihan, maklum balas keselamatan, halangan pekerjaan dan penyediaan peralatan perlindungan diri
19.	Griffin dan Neal	2000	Konseptualisasi faktor pengurusan keselamatan tertinggi yang lebih spesifik daripada faktor peringkat pertama yang terhasil daripada tindak balas terhadap persepsi mengenai polisi dan prosedur keselamatan serta ganjaran.
20.	Cooper	2001	Iklim keselamatan merupakan persepsi individu terhadap keselamatan pekerjaan. Ciri iklim keselamatan yang baik ialah komitmen individu dan persepsi individu yang positif dan dikongsi dalam organisasi
21.	Yule, Flin dan Murdy	2001	Hasil persepsi dan sikap pekerja mengenai situasi keselamatan semasa di tempat kerja
22.	Mearns *et al.*	2001	Manifestasi budaya keselamatan melibatkan gelagat keselamatan dalam kalangan pekerja yang terhasil daripada sikap dan tindakan pekerja
23.	Wiegmann, Zhang, Thaden, Sharma dan Mitchell	2002	Situasi keselamatan semasa yang digunakan untuk mengukur budaya keselamatan dalam sesebuah organisasi melibatkan persepsi individu.
24.	Health Safety and Executive	2005	Ciri psikologi yang hadir dalam diri pekerja melibatkan nilai keselamatan, perspsi dan sikap
25.	Civil Air Navigation Services Organisation	2008	Perwakilan kepada perasaan dan persepsi individu tentang keselamatan pada masa-masa tertentu
26.	NIOSH, NORA, Health and Socal Assistance Sector Council	2009	Perkongsian persepsi pekerja terhadap perihal keselamatan yang wujud dalam sesebuah organisasi yang menjadi manifestasi kepada budaya keselamatan sesebuah organisasi
27.	Fogarty dan Shaw	2010	Perkongsian persepsi keselamatan dalam kalangan pekerja berhubungan pengurusan keselamatan dalam sesebuah organisasi
28.	Huang, Chen dan Grosch	2010	Persepsi pekerja terhadap polisi, prosedur dan pengamalan keselamatan dalam sesebuah organisasi
29.	Sinclair *et al.*	2010	Perkongsian persepsi pekerja terhadap nilai keselamatan yang wujud dalam sesebuah organisasi menerusi polisi, prosedur dan pengamalan keselamatan
30.	Mearns *et al.*	2013	Cara pekerja mengamalkan keselamatan berdasarkan polisi dan prosedur keselamatan yang diwujudkan dalam organisasi pada masa-masa tertentu

Nota. Diadaptasi daripada *Safety Culture and Safety Climate Definitions Suitable for a Regulator: A Systematic Literature Review* (ms. 75-81), oleh T. Vu dan H. D. Cieri, 2014, Caufield East: Monash University. Hak cipta oleh Monash University.

LAMPIRAN C

Takrifan Iklim Keselamatan di Sektor Pendidikan

Bil.	Takrifan Iklim Keselamatan	Sumber
1.	Persepsi pekerja terhadap pengamalan keselamatan di persekitaran universiti mengenai kepentingan pelaporan kemalangan dan kecederaan pekerjaan	Alvarado (2003)
2.	Persepsi pekerja terhadap budaya keselamatan yang berupaya mempengaruhi organisasi dan individu dan memberikan kesan terhadap gelagat keselamatan	Wu *et al.* (2007)
3.	Manifestasi budaya keselamatan melibatkan persepsi, sikap dan kepercayaan terhadap risiko dan keselamatan dalam kalangan pekerja	Gutiérrez *et al.* (2013)
4.	Persepsi pekerja terhadap kepimpinan keselamatan dalam persekitaran makmal di universiti	Simpson (2015)
5.	Perkongsian persepsi keselamatan dalam organisasi melibatkan pekerja dan pengurusan pada masa-masa tertentu	Schröder *et al.* (2016)
6.	Gambaran pengukuran perkongsian persepsi pekerja, sikap dan kepercayaan terhadap risiko dan keselamatan yang mempunyai pengaruh yang kuat ke atas gelagat keselamatan	Steward *et al.* (2016)
7.	Faktor-faktor pengurusan keselamatan yang mempengaruhi keselamatan persekitaran di sekolah	Ugwulashi (2016)

Universiti Utara Malaysia

Borang Soal Selidik

Hubungan antara Iklim Keselamatan dengan Gelagat Keselamatan di dalam Makmal dalam Kalangan Pelajar di Universiti

Salam sejahtera. Penyelidik merupakan pelajar Sarjana Sains (Pengurusan Keselamatan & Kesihatan Pekerjaan), Pusat Pengajian Pengurusan Perniagaan, Kolej Perniagaan, Universiti Utara Malaysia.

Saudara/ saudari diminta untuk melengkapkan borang soal selidik ini. Kerjasama daripada saudara/ saudari amat dihargai.

- Soal selidik ini bertujuan:
  - Mengenal pasti kesan langsung iklim keselamatan terhadap gelagat keselamatan di dalam makmal dalam kalangan pelajar di universiti.
  - Mengkaji kesan pengantaraan motivasi keselamatan dan pengetahuan keselamatan terhadap hubungan antara iklim keselamatan dengan gelagat keselamatan di dalam makmal dalam kalangan pelajar di universiti.

- Segala maklumbalas yang diberikan adalah **RAHSIA**.

- Sebarang pertanyaan berhubung soal selidik ini boleh hubungi Khairul Hafezad Bin Abdullah di talian 011-5504 5015

Terima kasih di atas kerjasama yang diberikan.

Bahagian A: Maklumat Latar Belakang

Bagi setiap item, sila tandakan (√) atau isi tempat kosong pada ruangan yang berkaitan.

1. Jantina : [ ] Lelaki

   [ ] Perempuan

2. Umur : _____ tahun

3. Institusi Pengajian:

   [ ] Universiti Sains Malaysia
   [ ] Universiti Teknologi MARA
   [ ] Universiti Malaysia Perlis

4. Program Pengajian:

   [ ] Kejuruteraan Kimia
   [ ] Kejuruteraan Bioproses
   [ ] Kejuruteraan Biosistem
   [ ] Kejuruteraan Kimia (Alam Sekitar)

5. Tahun Pengajian:

   [ ] Tiga
   [ ] Empat

6. Tahap Pendidikan:

   [ ] Diploma
   [ ] STPM
   [ ] Matrikulasi
   [ ] Asasi Sains

7. Adakah anda pernah terlibat dengan kemalangan di dalam makmal?

   [ ] Tidak
   [ ] Ya, yang bagaimana?

   .....

   .....

Bahagian B; Keselamatan Makmal

Bagi setiap item, sila tandakan (√) untuk menyatakan pendapat anda mengikut skala berkenaan:

1	2	3	4	5	6
Sangat Tidak Setuju / Strongly disagree	Tidak Setuju / Disagree	Agak Tidak Setuju / Slightly Disagree	Agak Setuju / Slightly Agree	Setuju / Agree	Sangat Setuju / Strongly Agree

Bil.	Pernyataan	1	2	3	4	5	6
	A. Dimensi Iklim Keselamatan						
	(I) Komitmen Pengurusan						
1	Keselamatan merupakan prioriti pihak pengurusan *Safety is the main priority of the management*						
2	Peraturan-peraturan dan prosedur-prosedur keselamatan dipatuhi oleh pihak pengurusan *Safety rules and procedures are followed by the management*						
3	Tindakan pembetulan sentiasa diambil oleh pihak pengurusan apabila amalan tidak selamat dilaporkan *Corrective action is always taken when unsafe practice is reported to the management*						
4	Pihak pengurusan mengambil kira aspek keselamatan sama penting dengan kecemerlangan akademik *Management considers safety to be equally important as academic excellences*						
5	Pihak pengurusan segera bertindak menyelesaikan masalah keselamatan makmal di universiti ini *Management acts quickly to solve the laboratory safety problem in this university*						
6	Pihak pengurusan mempertimbangkan dengan jelas keselamatan pelajar adalah sangat penting *Management clearly considers the safety of the students are great important*						
	(II) Komitmen Penyelia						
7	Kakitangan makmal/ Pensyarah menyediakan kelengkapan keselamatan yang mencukupi *Laboratory staff/ Lecturers provide sufficient safety equipments*						

Bil.	Pernyataan	1	2	3	4	5	6
8	Kakitangan makmal/ Pensyarah menjalankan pemeriksaan kelengkapan makmal *Laboratory staff/ Lecturers carry out inspections on laboratory equipments*						
9	Kakitangan makmal/ Pensyarah memberi perhatian terhadap keselamatan pelajar *Laboratory staff/ Lecturers pay close attention to students' safety*						
10	Kakitangan makmal/ Pensyarah kerap berkomunikasi mengenai isu-isu keselamatan dengan pelajar *Laboratory staff/ Lecturers frequently communicate safety issues to student*						
11	Kakitangan makmal/ Pensyarah sentiasa membekalkan pelajar dengan maklumat keselamatan *Laboratory staff/ Lecturers regularly provide students with safety information*						
12	Kakitangan makmal/ Pensyarah menyatakan kebimbangan sekiranya prosedur keselamatan tidak dipatuhi *Laboratory staff/ Lecturers express concern if safety procedures are not adhere to*						
	(III) Komitmen Pelajar						
13	Saya bersedia mengambil bahagian dalam latihan keselamatan *I am willing to participate in the safety training*						
14	Saya bersedia mematuhi peraturan-peraturan keselamatan *I am willing to obey the safety regulations*						
15	Saya bersedia meningkatkan keselamatan makmal *I am willing to improve the safety of the laboratory*						
16	Saya bersedia menyuarakan pandangan saya berhubung penambahbaikan keselamatan *I am willing to propose my opinion regarding safety improvement*						
17	Saya bersedia menguatkuasakan prosedur operasi standard *I am willing to enforce the standard operation procedure*						
18	Saya bersedia mengekalkan kebersihan dan kekemasan makmal *I am willing to maintain the cleanliness and neatness of the laboratory*						
19	Saya bersedia mengekalkan keberfungsian peralatan keselamatan *I am willing to maintain the functionality of safety equipments*						

Bil.	Pernyataan	1	2	3	4	5	6
	(IV) Persepsi Risiko						
20	Semasa menjalankan kerja, agak sukar untuk saya terdedah dengan bahan-bahan berbahaya *While working, it is very unlikely for me to get into contact with hazardous materials*						
21	Semasa menjalankan kerja, agak sukar untuk saya terdedah dengan bahan-bahan berjangkit *While working, it is very unlikely for me to get into contact with infectious materials*						
22	Semasa menjalankan kerja, agak sukar untuk saya terkena renjatan elektrik *While working, it is very unlikely for me to get an electric shock*						
23	Semasa menjalankan kerja, agak sukar untuk saya tersepit pada mesin *While working, it is very unlikely for me to get trapped in the machine*						
24	Apabila saya bekerja dengan tidak selamat, ia disebabkan saya tidak dilatih dengan betul *When I work unsafely, it is because I was not trained properly*						
25	Apabila saya bekerja dengan tidak selamat, ia disebabkan saya tidak tahu apa yang saya lakukan pada masa itu adalah salah *When I work unsafely, it is because I do not know what I am doing is wrong at the time*						
26	Apabila saya bekerja dengan tidak selamat, ia disebabkan saya perlu menyelesaikan tugas dengan cepat *When I work unsafely, it is because I needed to complete the task quickly*						
27	Apabila saya bekerja dengan tidak selamat, ia disebabkan peralatan yang betul tidak disediakan atau tidak berfungsi *When I work unsafely, it is because the right equipment was not provided or was not working*						
	(V) Penghargaan Keselamatan						
28	Saya diberi ganjaran apabila saya mengambil tindakan pantas mengenal pasti kesilapan yang serius *I was rewarded for taking quick action to identify a serious mistake*						
29	Universiti ini mengiktiraf pencapaian keselamatan melalui ganjaran dan insentif *This university recognizes individual safety achievement through rewards and incentives*						
30	Saya menerima penghargaan apabila saya melakukan kerja dengan selamat *I receive appreciation when I work safely*						
31	Kakitangan makmal/ Pensyarah memuji saya di atas prestasi keselamatan yang baik *Laboratory staff/ Lecturers complimented me on a good safety performance*						

Bil.	Pernyataan	1	2	3	4	5	6
32	Saya berpeluang berbincang dan menerima maklum balas terhadap prestasi keselamatan saya *I have opportunity to discuss and receive feedback on my safety performance*						
33	Saya gembira dengan maklum balas prestasi keselamatan saya *I am happy with the feedback on my safety performance*						
34	Saya menerima penghargaan apabila saya melakukan kerja melebihi jangkaan *I receive appreciation when I perform above the expectation set*						
	B. Pengantaraan Kajian						
	(I) Motivasi Keselamatan						
35	Saya berasa penting mengekalkan keselamatan sepanjang masa *I feel that it is important to maintain safety at all times*						
36	Saya percaya bahawa keselamatan di dalam makmal adalah isu yang sangat penting *I believe that safety in the laboratory is a very important issue*						
37	Saya percaya mengurangkan risiko kemalangan di dalam makmal adalah penting *I believe that it is important to reduce the risk of accidents in the laboratory*						
38	Saya berasa penting menggalakkan orang lain mempraktikkan amalan keselamatan *I feel that it is important to encourage others practice safety measures*						
39	Saya berasa sangat penting mempromosikan program-program keselamatan *I feel that it is very important to promote safety programs*						
40	Saya akan bekerja lebih selamat sekiranya prosedur keselamatan lebih realistik *I will work more safely if safety procedures were more realistic*						
41	Saya akan bekerja lebih selamat sekiranya saya diberi latihan keselamatan dengan lebih kerap *I will work more safely if I was given safety training more often*						
	(II) Pengetahuan Keselamatan						
42	Saya tahu bagaimana untuk melakukan kerja dengan selamat *I know how to perform my job in a safe manner*						
43	Saya tahu bagaimana untuk mematuhi prosedur standard *I know how to follow standard procedures*						
44	Saya tahu bagaimana untuk mengekalkan atau meningkatkan keselamatan makmal *I know how to maintain or improve laboratory safety*						
45	Saya tahu bagaimana untuk mengendalikan kelengkapan makmal dengan selamat *I know how to operate laboratory equipment safely*						
46	Saya tahu peraturan keselamatan berkaitan pekerjaan saya *I know the safety regulations relating to my work*						

Bil.	Pernyataan	1	2	3	4	5	6
47	Saya menggunakan semua kelengkapan keselamatan untuk menjalankan kerja-kerja saya *I use all the safety equipments to carry out my jobs*						
	C. Gelagat Keselamatan						
	(I) Pematuhan Keselamatan						
48	Saya menjalankan kerja dengan cara yang selamat *I carry out my work in a safe manner*						
49	Saya mengikut prosedur keselamatan yang betul semasa menjalankan kerja *I follow correct safety procedures while carrying out my job*						
50	Saya memastikan tahap keselamatan tertinggi apabila saya menjalankan kerja *I ensure the highest level of safety when I carry out my job*						
51	Saya menjalankan kerja dengan selamat biarpun masa tidak mencukupi *I carry out work safely even if time is insufficient*						
52	Saya sentiasa mematuhi prosedur kerja yang selamat untuk menyelesaikan kerja dengan selamat *I always follow safe work procedures to get job done safely*						
	(II) Penyertaan Keselamatan						
53	Saya membantu rakan-rakan apabila mereka bekerja dalam keadaan berisiko atau berbahaya *I help my co-workers when they are working under risky or hazardous condition*						
54	Saya sentiasa melaporkan kemalangan di dalam makmal *I always report accident in the laboratory*						
55	Saya sentiasa berusaha gigih untuk meningkatkan keselamatan makmal *I put extra effort to improve the safety of the laboratory*						
56	Saya secara sukarela melakukan tugas-tugas atau aktiviti-aktiviti yang membantu meningkatkan keselamatan makmal *I voluntarily carry out tasks or activities that help to improve laboratory safety*						
57	Saya menggalakkan rakan-rakan bekerja dengan selamat *I encourage my co-workers to work safely*						

~~~ Soalan Tamat,Terima Kasih ~~~

Soalan-soalan dalam Borang Soal Selidik yang Diadaptasi, Diubahsuai dan Diterjemah

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
A.	**Dimensi Iklim Keselamatan**						
		Komitmen Pengurusan	1.	Safety is given a high priority by management	Neal, Griffin dan Hart (2000)	Safety is the main priority of the management	Keselamatan merupakan prioriti pihak pengurusan
			2.	Safety procedures are carefully followed	Cheyne, Cox, Oliver dan Tomás (1998)	Safety rules and procedures are followed by the management	Peraturan-peraturan dan prosedur-prosedur keselamatan dipatuhi oleh pihak pengurusan
			3.	Corrective action is always taken when the management is told about unsafe practice	Cox dan Cheyne (2000)	Corrective action is always taken when unsafe practice is reported to the management	Tindakan pembetulan sentiasa diambil oleh pihak pengurusan apabila amalan tidak selamat dilaporkan
			4.	Management considers safety to be equally important as production	Cox dan Cheyne (2000)	Management considers safety to be equally important as academic excellences	Pihak pengurusan mengambil kira aspek keselamatan sama penting dengan kecemerlangan akademik

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
			5.	In my workplace management acts quickly to solve the safety problem	Cox dan Cheyne (2000)	Management acts quickly to solve the laboratory safety problem in this university	Pihak pengurusan segera bertindak menyelesaikan masalah keselamatan makmal di universiti ini
			6.	Management clearly considers the safety of employees of great importance	Cox dan Cheyne (2000)	Management clearly considers the safety of students are great importance	Pihak pengurusan mempertimbangkan dengan jelas keselamatan pelajar adalah sangat penting
(II)		Komitmen Penyelia	7.	Our management supplies enough safety equipment	Williamson, Feyer, Cairns dan Biancotti (1997)	Laboratory staff/ Lecturer provide sufficient safety equipment	Kakitangan makmal/ Pensyarah menyediakan kelengkapan keselamatan yang mencukupi
			8.	Our management checks equipment to make sure it is free of faults	Williamson *et al.* (1997)	Laboratory staff/ Lecturer carry out inspection on laboratory equipment	Kakitangan makmal/ Pensyarah menjalankan pemeriksaan kelengkapan makmal
			9.	In my workplace managers/ supervisors show interest in my	Cox dan Cheyne (2000)	Laboratory staff/ Lecturer pay close attention to students'	Kakitangan makmal/ Pensyarah memberi perhatian terhadap

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
				safety		safety	keselamatan pelajar
			10.	He/She frequently communicates safety issues to employees	Wu dan Lee (2003)	Laboratory staff/ Lecturer frequently communicates safety issues to student	Kakitangan makmal/ Pensyarah kerap berkomunikasi mengenai isu-isu keselamatan dengan pelajar
			11.	He/ She regularly provides employees with safety information	Wu dan Lee (2003)	Laboratory staff/ Lecturer regularly provides students with safety information	Kakitangan makmal/ Pensyarah sentiasa membekalkan pelajar dengan maklumat keselamatan
			12.	Managers and supervisors express concern if safety procedures are not adhered to	Cox dan Cheyne (2000)	Laboratory staff/ Lecturer express concern if safety procedures are not adhered to	Kakitangan makmal/ Pensyarah menyatakan kebimbangan sekiranya prosedur keselamatan tidak dipatuhi
(III)		Komitmen Pelajar	13.	You are willing to participate in the safety training	Wu dan Lee (2003)	I am willing to participate in the safety training	Saya bersedia mengambil bahagian dalam latihan keselamatan
			14.	You are willing to obey the safety	Wu dan Lee (2003)	I am willing to obey the safety regulation	Saya bersedia mematuhi peraturan-

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
				regulation			peraturan keselamatan
			15.	You are willing to improve the safety of workplace	Wu dan Lee (2003)	I am willing to improve the safety of the laboratory	Saya bersedia meningkatkan keselamatan makmal
			16.	You are willing to propose your opinion regarding safety improvement	Wu dan Lee (2003)	I am willing to propose my opinion regarding safety improvement	Saya bersedia menyuarakan pandangan saya berhubung penambahbaikan keselamatan
			17.	You are willing to enforce the standard operation procedure	Wu dan Lee (2003)	I am willing to enforce the standard operation procedure	Saya bersedia menguatkuasakan prosedur operasi standard
			18.	You are willing to maintain the cleanness and order of the workplace	Wu dan Lee (2003)	I am willing to maintain the cleanliness and neatness of the laboratory	Saya bersedia mengekalkan kebersihan dan kekemasan makmal
			19.	You are willing to maintain the function of safety facilities	Wu dan Lee (2003)	I am willing to maintain the functionality of safety equipments	Saya bersedia mengekalkan keberfungsian kelengkapan keselamatan

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
(IV)		Persepsi Risiko	20.	While working, it is very unlikely for me to get in contact with hazardous materials	Wu dan Lee (2003)	While working, it is very unlikely for me to get into contact with hazardous materials	Semasa menjalankan kerja, agak sukar untuk saya terdedah dengan bahan-bahan berbahaya
			21.	While working, it is very unlikely for me to get in contact with infectious materials	Wu dan Lee (2003)	While working, it is very unlikely for me to get into contact with infectious materials	Semasa menjalankan kerja, agak sukar untuk saya terdedah dengan bahan-bahan berjangkit
			22.	While working, it is very unlikely for me to get an electric shock	Wu dan Lee (2003)	While working, it is very unlikely for me to get an electric shock	Semasa menjalankan kerja, agak sukar untuk saya terkena renjatan elektrik
			23.	While working, it is very unlikely for me to be pinched by a machine	Wu dan Lee (2003)	While working, it is very unlikely for me to get trapped in the machine	Semasa menjalankan kerja, agak sukar untuk saya tersepit pada mesin
			24.	When I have worked unsafely it has been because I was not trained properly	Williamson *et al.* (1997)	When I work unsafely, it is because I was not trained properly	Apabila saya bekerja dengan tidak selamat, ia disebabkan saya tidak dilatih dengan betul
			25.	When I have worked unsafely it has been	Williamson *et al.*	When I work unsafely, it is because I do not	Apabila saya bekerja dengan tidak selamat, ia

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
				because I didn't know what I was doing wrong at the time	(1997)	know what I am doing is wrong at the time	disebabkan saya tidak tahu apa yang saya lakukan pada masa itu adalah salah
			26.	When I have worked unsafely it has been because I needed to complete the task quickly	Williamson *et al.* (1997)	When I work unsafely, it is because I needed to complete the task quickly	Apabila saya bekerja dengan tidak selamat, ia disebabkan saya perlu menyelesaikan tugas dengan cepat
			27.	When I have worked unsafely it has been because the right equipment was not provided or wasn't working	Williamson *et al.* (1997)	When I work unsafely, it is because the right equipment was not provided or was not working	Apabila saya bekerja dengan tidak selamat, ianya disebabkan peralatan yang betul tidak disediakan atau tidak berfungsi
(V)		Penghargaan Keselamatan	28.	I am rewarded for taking quick action to identify a serious mistake	Singer, Lin, Falwell, Gaba dan Baker (2009)	I am rewarded for taking quick action to identify a serious mistake	Saya diberi ganjaran apabila saya mengambil tindakan pantas mengenal pasti kesilapan yang serius
			29.	My unit recognizes individual safety achievement through rewards and incentives	Singer *et al.* (2009)	This university recognizes individual safety achievement through rewards and incentives	Universiti ini mengiktiraf pencapaian keselamatan melalui ganjaran dan insentif

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
			30.	Teacher receive recognition for good work	Hart, Wearing, Conn, Carter dan Dingle (2000)	I receive appreciation when I work safely	Saya menerima penghargaan apabila saya bekerja dengan selamat
			31.	I am encouraged in my work by praise, thanks or other recognition	Hart *et al.* (2000)	Laboratory staff/ Lecturer complimented me for good safety performance	Kakitangan makmal/ Pensyarah memuji saya di atas prestasi keselamatan yang baik
			32.	I have opportunity to discuss and receive feedback on my work performance	Hart *et al.* (2000)	I have opportunity to discuss and receive feedback on my safety performance	Saya berpeluang berbincang dan menerima maklumbalas terhadap prestasi keselamatan saya
			33.	I am happy with quality of feedback on my work performance	Hart *et al.* (2000)	I am happy with feedback on my safety performance	Saya gembira dengan maklum balas prestasi keselamatan saya
			34.	I receive recognition when I perform above expectation	Hart *et al.* (2000)	I receive appreciation when I perform above the expectation set	Saya menerima penghargaan apabila saya melakukan kerja melebihi jangkaan
B.	**Mediator Kajian**						

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
(I)	Motivasi Keselamatan		35.	I feel that it is important to maintain safety all the time	Neal *et al.* (2000)	I feel that it is important to maintain safety all the time	Saya berasa penting mengekalkan keselamatan sepanjang masa
			36.	I believe that workplace and health safety is a very important issue	Neal *et al.* (2000)	I believe that safety in the laboratory is a very important issue	Saya percaya bahawa keselamatan di dalam makmal adalah isu yang sangat penting
			37.	I believe that it is important to reduce the risk of accidents and incidents in the workplace	Neal *et al.* (2000)	I believe that it is important to reduce the risk of accidents in the laboratory	Saya percaya mengurangkan risiko kemalangan di dalam makmal adalah penting
			38.	I feel that it is important to encourage others to use safe practices	Neal *et al.* (2000)	I feel that it is important to encourage others practices safety measures	Saya berasa penting menggalakkan orang lain mempraktikkan amalan keselamatan
			39.	I promote the safety programs within organization	Neal *et al.* (2000)	I feel that it is very important to promote safety programs	Saya berasa sangat penting mempromosikan program-program keselamatan
			40.	It would help me to work more safely if safety procedures were	Williamson *et al.* (1997)	I will work more safely if safety procedures were more	Saya akan bekerja dengan lebih selamat sekiranya prosedur

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
				more realistic		realistic	keselamatan lebih realistik
			41	It would help me to work more safely if we were given safety training more often	Williamson *et al.* (1997)	I will work more safely if I was given safety training more often	Saya akan bekerja dengan lebih selamat sekiranya saya diberi latihan keselamatan dengan lebih kerap
(II)	Pengetahuan Keselamatan		42	I know how to perform my job in a safe manner	Neal *et al.* (2000)	I know how to perform my job in a safe manner	Saya tahu bagaimana untuk melakukan kerja dengan selamat
			43.	Safety procedures are carefully followed	Cox dan Cheyne (2000)	I know how to follow standard procedures	Saya tahu bagaimana untuk mematuhi prosedur standard
			44.	I know how to maintain or improve workplace health and safety	Neal *et al.* (2000)	I know how to maintain or improve laboratory safety	Saya tahu bagaimana untuk mengekalkan atau meningkatkan keselamatan makmal
			45.	I have the knowledge to safely operate equipment used in my job	Griffin dan Neal (2000)	I know how to operate laboratory equipment safely	Saya tahu bagaimana untuk mengendalikan kelengkapan makmal dengan selamat
			46	I understand the health and safety regulations relating to my work	Griffin dan Neal (2000)	I know the safety regulations relating to my work	Saya tahu peraturan keselamatan berkaitan pekerjaan saya

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
			47.	I use all necessary safety equipment to do my jobs	Neal *et al.* (2000)	I use all necessary safety equipment to do my jobs	Saya menggunakan semua kelengkapan keselamatan yang diperlukan untuk menjalankan kerja-kerja saya
C.	**Gelagat Keselamatan Makmal**						
(I)		Pematuhan Keselamatan	48.	I know how to perform my job in a safe manner	Neal *et al.* (2000)	I carry out my work in a safe manner	Saya menjalankan kerja dengan cara yang selamat
			49.	I use the correct safety procedures for carrying out my job	Neal *et al.* (2000)	I follow correct safety procedures while carrying out my job	Saya mengikut prosedur keselamatan yang betul semasa menjalankan kerja
			50.	I ensure the highest level of safety when I carry out my job	Neal *et al.* (2000)	I ensure the highest level of safety when I carry out my job	Saya memastikan tahap keselamatan tertinggi apabila saya menjalankan kerja
			51.	Sometimes I am not given enough time to get the job done safely	Cox dan Cheyne (2000)	I carry out work safely even if time is insufficient	Saya menjalankan kerja dengan selamat biarpun masa tidak mencukupi

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
			52.	Some safety procedures do not need to be followed to get the job done safely	Cox dan Cheyne (2000)	I always follow safe work procedures to get job done safely	Saya sentiasa mematuhi prosedur kerja yang selamat untuk menyelesaikan kerja dengan selamat
(II)		Penyertaan Keselamatan	53.	I help my co-workers when they are working under risky or hazardous condition	Neal *et al.* (2000)	I help my co-workers when they are working under risky or hazardous condition	Saya membantu rakan-rakan apabila mereka bekerja dalam keadaan berisiko atau berbahaya
			54.	We always report accident/ incidents	Cheyne *et al.* (1998)	I always report accident in the laboratory	Saya sentiasa melaporkan kemalangan di dalam makmal
			55.	I put extra effort to improve the safety of the workplace	Neal *et al.* (2000)	I put extra effort to improve the safety of the laboratory	Saya sentiasa berusaha gigih untuk meningkatkan keselamatan makmal
			56.	I voluntarily carry out tasks or activities that help to improve workplace safety	Neal *et al.* (2000)	I voluntarily carry out tasks or activities that help to improve laboratory safety	Saya secara sukarela melakukan tugas-tugas atau aktiviti-aktiviti yang membantu meningkatkan keselamatan makmal

Bahagian	Pemboleh Ubah	Dimensi/ Elemen	Bil.	Soalan Asal	Sumber Asal	Soalan Diadaptasi dan Diubahsuai	Soalan Diterjemah
			57.	It would help me to work more safely if my workmates supported safe behavior	Williamson *et al.* (1997)	I encourage my co-workers to work safely	Saya menggalakkan rakan-rakan bekerja dengan selamat